

Objection to the Specification

The specification was objected to under 37 C.F.R. § 1.71 because it allegedly fails to give an adequate written description of Applicants' invention. Because the specification, as filed, reasonably conveys to the skilled artisan the invention the Applicants possessed, Applicants respectfully submit that the objection should be withdrawn.

The appropriate test of the sufficiency of the written description of an invention is whether the description, as filed, reasonably conveys to the skilled artisan that the Applicant(s) had possession of the subject matter claimed. See, e.g., *In re Kaslow*, 217 U.S.P.Q. 1089, 1096 (Fed. Cir. 1983) (concurring with the Board of Patent Appeals, citing *In re Edwards*, 196 U.S.P.Q. 465 (C.C.P.A. 1978) and *In re Herschler*, 200 U.S.P.Q. 711 (C.C.P.A. 1979)). Applicants respectfully submit that, at the time the instant Application was filed, the skilled artisan would have known that the composition of the alloys used in Applicants' inventive conductive strip was expressed in terms of percentage-by-weight.

In support of their assertion, Applicants submit Exhibits 1 and 2. Both Exhibits concern copper alloys and are taken from learned treatises on the subject of metallurgy. Applicants respectfully point-out that both Exhibits describe the composition of copper alloys in terms of the percentage of the constituent metals, without any express reference to the basis - weight or molar - on which such percentages are calculated. Applicants respectfully submit that one skilled in the metallurgical arts would instantly recognize that the percentages recited in the Exhibits, and in the instant Application, are on a weight basis because it is customary in the metallurgical arts to express compositions of alloys on a percentage-by-weight basis.

As further evidence of the custom in the metallurgical arts of reciting compositions of alloys as percentages without

stating expressly that percentages are percentages-by-weight, Applicants submit Exhibit 3, U.S. Patent 4,179,313, which recites the percentage composition of an aluminum alloy, without expressly reciting that the percentages are percentages-by-weight.

Applicants respectfully submit that, at the time the instant Application was filed, the artisan skilled in the metallurgical arts would have instantly recognized that the composition of the copper alloys recited in Applicants' specification was expressed as percentage-by-weight and, therefore, such artisan would have been aware that Applicants were in possession of the claimed invention. Accordingly, Applicants respectfully submit that the objection should be withdrawn.

The specification was further objected to on the basis of alleged informalities. Applicants have amended their specification as suggested in the Office Action and respectfully submit that the amendments correct an obvious typographical error. Accordingly, Applicants respectfully submit that the objection should be withdrawn.

Claim Rejections Under 35 U.S.C. § 112, paragraph first.

Claims 1-17 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly not enabled by the specification. Because the specification as filed teaches one skilled in the metallurgical arts how to make and use Applicants' inventive conductive strip, Applicants respectfully traverse.

As an initial matter, Applicants respectfully point-out that they have found that certain alloys can be used to advantage in their invention. See Application, 3:19-20. Features that are preferred are not necessarily considered critical. M.P.E.P. § 2164.08(c). However, assuming *arguendo* that the composition of the alloy is critical, the claims are nevertheless enabled because one skilled in the metallurgical

arts would instantly recognize that the alloy compositions recited in the specification are on a percent-by-weight basis.

The test of enablement is whether one skilled in the art could make and use the claimed invention from the description of the patent coupled with information known in the art without undue experimentation. M.P.E.P. § 2164.01 (emphasis added). As discussed above in response to the objections to the specification, the Exhibits show that it is common practice in the metallurgical arts to describe the composition of copper alloys in terms of percentages without expressly reciting the basis - weight or mole - on which the percentage is calculated; it being understood by routiner and skilled artisan alike that the compositions are on a percent-by-weight basis.

Applicants respectfully submit that all that is needed to make and use Applicants invention without undue experimentation can be found in their disclosure or in the information available to one skilled in the metallurgical arts. Accordingly, Applicants respectfully submit that the rejection should be withdrawn.

Claim rejections Under 35 U.S.C. § 103(a)

Claims 1-6 and 9-14 were rejected under 35 U.S.C. § 103(a) as allegedly obvious over *Morikawa et al.*, U.S. Patent 4,525,434 ("*Morikawa et al.*") in view of *McDonald et al.*, U.S. Patent 4,631,171 ("*McDonald et al.*"). Because the Office Action fails to identify a proper motivation for combining the cited references, Applicants respectfully traverse.

Morikawa et al. teach a copper alloy in which a particular manganese content is critical (2:53-61; 3:33). Applicants respectfully point-out that the alloy used in their inventive conductive metal strip comprises, at most, a *de minimis* amount of manganese. See Application, Table 2. *Morikawa et al.* further teach that their manganese-containing alloy can be used as cladding on a copper substrate (2:36-44).

Morikawa et al. teach that this cladding provides a high resistance to oxidation (2:43-44) and further clearly teach that the presence of manganese in their alloy increases the strength of their alloy and greatly inhibits formation of an oxide film (oxidation) when zinc is present (2:54-55). That is, the presence of a particular concentration of manganese is taught to be critical to achieving the desired resistance to oxidation and optimum strength. Thus, Applicants respectfully submit that, contrary to the assertions made in the Office Action, *Morikawa et al.* would lead the skilled artisan seeking a strong oxidation resistant material away from a copper alloy containing less than 7% manganese and, thus, provide no motivation to the skilled artisan to do what Applicants have done.

McDonald et al. teach manganese-containing copper alloys as brazing materials and disclose that certain attributes (see, e.g., 2:1-6) obtain to the presence of 5% to 20% manganese in their alloys (2:15). *McDonald et al.* disclose that the manganese-containing alloys of their invention can be used to clad (i.e. "sandwich") a strip of copper or copper alloy clad on both sides to form a brazing product. See 2:55-58 (emphasis added). Applicants respectfully submit that nothing in *McDonald et al.* would suggest to the skilled artisan that an essentially manganese-free copper alloy could be successfully used to make the brazing product of *McDonalds et al.* Moreover, *McDonald et al.* are silent on the ability of their manganese-containing alloys to be roll-bonded, as required by Applicants' claims. Thus, nothing in *McDonald et al.* would suggest to the skilled artisan that the nickel-silvers mentioned therein could be substituted for the manganese containing alloys of *Morikawa et al.* Accordingly, Applicants respectfully submit that the combination of the references is improper and that the rejection should therefore be withdrawn.

Claims 1-16 were rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Morikawa et al.* in view of *Badia*, U.S. Patent 3,403,997 ("*Badia*"). Because the Office Action fails to identify a proper motivation for combining the cited references, Applicants respectfully traverse.

Morikawa et al. teach a copper alloy in which a particular manganese content is critical (2:53-61; 8:33). The alloy used in the cladding of Applicants' inventive conductive metal strip comprises, at most, a *de minimis* amount of manganese. See Application, Table 2. As discussed above, Applicants respectfully submit that *Morikawa et al.* teach away from a copper alloy containing less than 7% manganese and, thus, provide no motivation to the skilled artisan to use an essentially manganese-free alloy to do what Applicants have done.

Badia teaches a process for treating so-called alpha-type nickel-silvers, and further that nickel-silvers treated according to his process can be used as electrical connector leaf springs (7:33-36, emphasis added). Applicants respectfully point-out that the copper alloys that form the roll-bonded cladding in their inventive electrically conductive metal strip are not treated by any particular process, and certainly not by the *Badia* process, prior to construction of the inventive strip. *Badia* does not teach or suggest that alloys not treated by his process have properties suitable for the uses he describes. Applicants respectfully submit that, at most, *Badia* might induce the skilled artisan to experiment with a non-treated alpha-type nickel-silvers and that reliance on *Badia* on this point for the motivation required to justify the combination of references is an attempt to apply a legally insufficient obvious-to-try standard.

Applicants further respectfully point-out that *Badia* is silent on the roll-bonding characteristics of the nickel-silvers mentioned therein and respectfully submit that nothing

in *Badia* suggests a two-component electrically conductive strip in which one component (the cladding) is a roll-bonded, non-treated Cu/Ni/Zn alloy.

Because the Office Action fails to identify anything in either *Morikawa* or *Badia* that would suggest to the skilled artisan that a core strip of copper material would be successfully combined with a roll-bonded and essentially manganese-free Cu/Ni/Zn cladding to arrive at Applicants' inventive conductive metal strip, Applicants respectfully submit that the combination of references is improper and that the rejection should be withdrawn.

Claim 17 was rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Morikawa et al.* and *McDonald et al.* in view of *Meyrat et al.*, U.S. Patent 4,842,536 ("*Meyrat et al.*"). Because claim 17 depends from claim 1 and, Applicants respectfully submit, claim 1 itself comprises patentable subject matter, Applicants respectfully traverse.

As discussed above, Applicants respectfully submit that *Morikawa et al.* teach away from a clad material having a copper or copper alloy substrate clad with an essentially manganese-free Cu/Ni/Zn alloy. *McDonald et al.* also disclose nickel-silvers, but likewise teach away from using them to form a "sandwich" brazing product. Applicants respectfully submit that neither *Morikawa et al.* nor *McDonald et al.*, alone or in combination, render any of Applicants' claims obvious.

Meyrat et al. teach an electrical connector that can be made of Cu/Ni/Zn alloy. *Meyrat et al.* do not teach or suggest that any component of their connector be fashioned of or from a conductive strip comprising a core strip of a copper material having roll-bonded thereon a Cu/Ni/Zn alloy. As noted above, neither of the other references cited would provide the skilled artisan with the requisite motivation to substitute such a conductive strip in the connector of *Meyrat et al.*

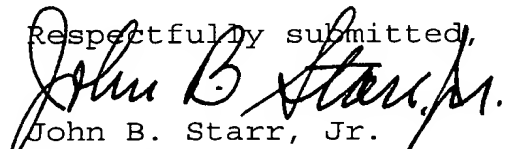
Because claim 17 depends from a claim that comprises patentable subject matter and further because combination of the references is, Applicants respectfully submit, improper; Applicants respectfully submit that the rejection should be withdrawn.

In view of the foregoing amendments and remarks, Applicants respectfully submit that the claims are now in condition for allowance, which allowance is earnestly solicited.

AUTHORIZATION TO DEBIT DEPOSIT ACCOUNT

Applicants respectfully submit that no fee is due with this Amendment and Response. If a fee is due, the Commissioner is hereby authorized to debit deposit account 59-190339 for the required fee.

Respectfully submitted,


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